

APPARATUS AND METHOD FOR IDENTIFYING DEFECTS
ON OBJECTS OR FOR LOCATING OBJECTS

Background of the Invention

Field of the Invention

[0001] The present invention relates to an apparatus and a method which are suitable for locating metallic objects e.g., in the ground, and can also be used for identifying defects on objects. In particular, the invention can be used for identifying defects or faults on metallic objects, and here in particular, on ferromagnetic semifinished or finished products.

Description of Related Art

[0002] Similar apparatus and methods of this type have been known for a relatively long time; however, the problem still exists of providing higher-quality portable measuring instruments of the generic type, in particular, those based on an eddy current measurement technique, or based on an ultrasonic measurement technique or related measurement techniques.

Summary of the Invention

[0003] Thus, a primary object of the present invention is to provide a device of the generic type for which the outlay required for its production is significantly reduced, and which simultaneously enables more precise and more reliable measurements - as far as possible in conjunction with a reduced energy requirement.

[0004] The indicated object is achieved, in accordance with the present invention, with the aid of computer driving, by the AC voltage energization of at least one transmitting coil being simultaneously effected by a carrier signal, an essentially amplitude- and/or phase-modulated received signal being received by means of at least one receiving coil, and a demodulation of the received signal being formed using the computer and a Fourier or wavelet transformation method, in such a way that a predefined number of digitally determined measurement results (samples) are fed to such a transformation method, an

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